

Indiana University Bloomington IUScholarWorks

Citation for this item

Citation format and information for this document is found at:
<http://hdl.handle.net/2022/17457>

This paper is from:

Dr. Ruth C(lifford) Engs - Presentations, Publications & Research Data Collection.

This collection is found at IUScholarWorks: <http://hdl.handle.net/2022/16829>

When in the collection and within a category, click on “title” to see all items in alphabetical order.

The Collection

This document is part of a collection that serves two purposes. First, it is a digital archive for a sampling of unpublished documents, presentations, questionnaires and limited publications resulting from over forty years of research. Second, it is a public archive for data on college student drinking patterns on the national and international level collected for over 20 years. Research topics by Dr. Engs have included the exploration of hypotheses concerning the determinants of behaviors such as student drinking patterns; models that have examine the etiology of cycles of prohibition and temperance movements, origins of western European drinking cultures (attitudes and behaviors concerning alcohol) from antiquity, eugenics, Progressive Era, and other social reform movements with moral overtones-Clean Living Movements; biographies of health and social reformers including Upton Sinclair; and oral histories of elderly monks.

Indiana University Archives

Paper manuscripts and material for Dr. Engs can be found in the IUArchives

http://webapp1.dlib.indiana.edu/findingaids/view?doc.view=entire_text&docId=InU-Ar-VAC0859

Collegiate Drinking: Administrator Perceptions, Campus Policies, and Student Behaviors

David J. Hanson and Ruth C. Engs



The authors report on a nationwide sample of 52 colleges and universities, examining the relationship between (a) students' self-reported drinking patterns and problems and college administrators' perceptions of those patterns and problems, and (b) students' self-reported drinking patterns and problems and the existence of campus alcohol policies, programs, and services.

College and university administrators generally believe that problems on campus resulting from alcohol abuse are both numerous and increasing in severity. In a 1987 survey by the Carnegie Foundation and the American Council on Education, presidents mentioned "substance abuse, primarily alcohol" most frequently when asked what three campus life issues had given them the greatest concern. Additionally, 67% of the presidents rated alcohol abuse a "moderate" to "major" problem (Boyer, 1990). Both faculty and administrators tend to believe alcohol problems are increasing (Carnegie, 1989). Administrators across the United States, for example, perceived alcohol to be involved in 68% of the cases of residence hall damage in 1991, compared with 61% in 1985 (Anderson & Gadaletto, 1991). Data regarding other problems appear in Table 1. Administrators have no reliable way of knowing the extent of drinking problems on their campuses, but their perceptions are very important in that they influence what their schools choose to do about such problems.

While colleges have instituted a vast array of alcohol use policies, educational programs, and services (Anderson & Gadaletto, 1991), the efficacy of such efforts has not been demonstrated (Goldmon, 1991; Weissman, 1992).

David J. Hanson, Professor, Department of Sociology, Director of Assessment, Potsdam College-SUNY, Potsdam, NY 13676. Ruth C. Engs, Professor, Applied Health Science, Indiana University, Bloomington, IN 46405.

Table 1
Mean Frequency with Which Alcohol was Perceived by Administrators to be Involved in Specific Problems, 1985 and 1991

Problem	1985	1981
Damage to property on campus (other than residence hall)	53%	64%
Violation of campus policy	51%	62%
Violent behavior	60%	70%
Physical injury	44%	53%
Emotional difficulty	34%	44%
Lack of academic success	29%	41%
Student attrition	21%	28%

Note: Adapted from Anderson and Gadaletto (1991).

Given administrative concerns and the vast institutional resources devoted to alcohol problems, it is important to determine if there is any relationship between institutional programs on one hand and the extent of such problems on the other.

The purposes of this study were to examine: (a) the relationship between students' self-reported drinking patterns and problems and college administrators' perceptions of those patterns and problems, and (b) the relationship between students' self-reported drinking patterns and problems and the existence of campus alcohol policies, programs, and services. The null hypotheses were as follows:

1. There is no relationship between administrators' perceptions of the percentage of students at their institutions who exhibit 20 alcohol patterns and problems and the percentage of students at the same institutions who self-report those behaviors.
2. There is no significant difference in the percentage of students who self-report the 20 patterns and problems between institutions that do and do not:
 - have a campus alcohol coordinator
 - have an alcohol task force
 - have strict alcohol policies
 - have alcohol education/programming
 - have alcohol education and/or programming as a high administrative priority
 - stress education or enforcement

METHOD

Instrument for Students

An anonymous precoded instrument was used to survey students, which included demographic items, questions regarding quantity and frequency of drinking, and 20 questions regarding possible drinking problems. The latter items appear in Table 2. All questionnaire items were pretested and the instrument exhibited an internal reliability coefficient of .79. Instructions explained the voluntary nature of participation, as approved by the authors' respective Institutional Review Boards.

Table 2
*Means of Administrators' Perceptions of Percentage of Students Exhibiting 20 Behaviors
 Related to Drinking and Means of Students Reporting the Behaviors
 at the Same Institutions*

Behavior	Administrator Perceptions		Student Reports		<i>r</i>
	\bar{x}	(SD)	\bar{x}	(SD)	
Drink	81.7	(17.5)	79.5	(15.3)	.6**
Drink heavily	28.2	(16.8)	23.7	(15.2)	.3*
Hangover	51.4	(20.1)	77.2	(11.3)	.1
Vomited	33.5	(19.8)	53.4	(11.0)	.0
Driven car after having several drinks	26.4	(15.9)	46.5	(13.5)	-.1
Driven when had too much to drink	20.1	(13.6)	35.1	(12.5)	.0
Driven while drinking	16.7	(16.3)	33.1	(13.0)	.2
Came to class after several drinks	8.0	(7.8)	6.8	(5.0)	.1
Cut class after having several drinks	18.6	(17.6)	9.6	(6.3)	.0
Missed class because of hangover	25.8	(18.8)	29.3	(14.8)	.1
Arrested for DWI	3.5	(2.7)	2.7	(4.8)	.1
Been criticized by date because of drinking	17.1	(14.2)	13.1	(8.0)	.2
Had trouble with law because of drinking	8.8	(9.3)	7.4	(5.1)	.2
Lost job due to drinking	2.7	(2.0)	1.3	(0.8)	.1
Got lower grade because of drinking too much	15.0	(13.0)	7.9	(13.3)	.2
Got into trouble with school due to excessive drinking	8.6	(7.9)	2.7	(2.9)	.0
Got into fight after drinking	14.4	(14.9)	16.7	(8.5)	.1
Thought might have drinking problem	9.9	(7.8)	10.0	(6.2)	.4**
Damaged property after drinking	9.4	(8.8)	10.1	(6.4)	.1
Played drinking game	30.5	(23.6)	74.5	(16.2)	.2

Note: * $p < .05$; ** $p < .01$.

Instrument for Administrators

The questionnaire for administrators included items designed to gather information about what alcohol policies, programs, and priorities existed on their campuses; items asking administrators to estimate the percentage of students at their campuses who consumed alcohol in various quantities and frequencies; and items asking administrators to estimate the percentage of students at their campuses who exhibited the 20 drinking problems students were asked about on their instrument. The Spearman-Brown reliability coefficient for the questionnaire was .78, Cronbach's alpha of homogeneity .81.

Sample

The sample was part of an ongoing study of student drinking patterns and problems at 4-year colleges and universities in every state in the U.S. from which data have been collected four times since 1982. The institutions were originally selected as part of a quota sample representing 4-year institutions of higher education in terms of financial support or control, size of student body, and size of community location.

The 1990-1991 sample of 3,193 students from 78 colleges was drawn through in-class administration in sociology and health or physical education courses with a high probability of containing students from every academic major and class year. The usable response rate exceeded 98% and, with the exception of females (who were slightly overrepresented), the demographic composition of the resulting sample approximated that of students attending baccalaureate institutions in the United States (Snyder, 1987). Of the 104 institutions contacted, 78 chose to participate.

To select the sample of administrators, a request was sent to the chief student affairs officer at each of the same 104 institutions first contacted; 84 returned completed questionnaires. Of these, it was possible to match 52 with the same institutions from which student samples had been received.

Limitations

Several research limitations must be noted. First, the sample size may have been too small to detect significant differences that might exist. Second, only one administrator at each institution estimated the percentage of students exhibiting specific behaviors. Third, the sample of students drawn at an institution may not have been representative of students in general at that institution. Fourth, students and administrators may have interpreted the meaning of student drinking items differently.

Calculations

Based on a method developed by Engs (1977), a Quantity/Frequency level of drinking was calculated for each respondent classified as a drinker (i.e., had consumed alcohol at least once during the previous year). Two categories were calculated: *Light-Moderate Drinkers*—those who drink at least once a year, but drink no more than three to four drinks at least once a week, or drink five or more drinks no more than once a month; and *Heavy Drinkers*—those who drink more than five drinks at any one sitting once a week or more.

Based on a method suggested by Lemmens, Tan, and Knibbe (1988), and used by other researchers as well (Engs, Hanson, Glikman, & Smythe, 1990; Glikman, Engs, & Smythe, 1989), the mean number of drinks consumed on a weekly basis was assessed according to the following steps. Frequency of consumption for each beverage type was quantified using a 5-point scale. These frequency of use responses were then assigned constant values: every day=7; at least once a week, but not every day=3.5; at least once a month, but less than once a week=0.5; more than once a year, but less than once a month=0.02; and none=0. For quantity, data were recorded in the following manner: more than 6 drinks=7; 5-6 drinks=5.5; 3-4 drinks=3.5; 2-3 drinks=1.5; less than 1 drink=0.5; and no drinks=0.

To establish the total number of drinks consumed on a weekly basis, a score was computed by multiplying the recoded quantity by the recoded frequency weight for each of the three beverage types and adding the three products. A limitation to this method is that may result in an over- or underestimation of consumption.

The mean percentage of students from each campus who had consumed alcohol at least once a week and of those who had consumed five or more drinks at one setting at least once a week during the previous 12 months were

also calculated. Finally, the mean percentage of students who reported exhibiting each of the 18 problems related to drinking was calculated for each institution.

Pearson's r was used to determine the relationship between administrators' mean perceived estimate of the percentage of students exhibiting a particular behavior and the mean percentage of students reporting they had exhibited that behavior, for each institution. A t -test was calculated between the mean percentage of students exhibiting each of the 20 alcohol-related behaviors for those institutions that did and did not have each of the six campus alcohol policies.

RESULTS

Table 2 lists the mean percentage of administrators' perceptions of the percentage of students exhibiting various drinking-related behaviors. It also presents the percentage of students reporting each of the behaviors. In about half of all cases a higher percentage of students reported exhibiting the behaviors than administrators perceived, and for about half administrators overestimated the percentage of students exhibiting the behaviors.

The hypothesis that there would be no relationship between administrators' perceptions and students' self-reports of drinking problems was only partially supported. There was a significant positive correlation ($p < .05$) between administrators' perceptions and students' self-reports concerning the percentage of students who drank at least once a year ($r = .6$) and the percentage of students who were heavy drinkers ($r = .3$). There was no correlation between the other items, other than "think they may have a problem with drinking" ($r = .4$).

The hypothesis that there would be no significant difference between institutions with and without the six alcohol policies in the 20 alcohol patterns and problems was supported. There was no significant difference for any of the items and the six policies.

CONCLUSION

Other than the percentage of students who consumed alcohol or were heavy drinkers, there was little relationship between administrators' perceptions of student drinking behaviors and students own self-reported behaviors. In some cases, administrators underestimated and in about the same number of other cases they overestimated the percentage of students experiencing various drinking behaviors.

In this nationwide sample, institutional alcohol policies and practices had no discernible effect on drinking patterns and problems reported by students. This should not be surprising. The general ineffectiveness of alcohol education (Goldman, 1991; Weissman, 1992) and changes in the legal drinking age (Engs & Hanson, 1989; Presley, Meilman, & Lyster, 1993) has been documented.

These findings suggest a need for implementing alternative approaches to reducing the abuse of alcohol. Current federal policy (which drives both state and most collegiate policies) is based on *erroneous* assumptions that:

- the substance of alcohol is the necessary and sufficient cause of all drinking problems (Ashley & Rankin, 1988; Herd, 1992; Pittman, 1980)
- the availability of alcohol determines the extent to which it will be consumed (Lauderdale, 1977; Pittman, 1980; Single, 1988)
- the quantity of alcohol consumed (rather than the manner in which it is consumed, the purpose for which it is consumed, the social context in which it is consumed, etc.) determines the extent of drinking problems (Colón, 1979; Lauderdale, 1977; Parker & Harman, 1979; Single, 1988; Smith, 1985)
- educational efforts should be directed toward stressing the problems that alcohol consumption can cause and encouraging abstinence (Ford, 1988; Lotterhos, Glover, Holbert, & Barnes, 1988; Office for Substance Abuse Prevention, 1989; U.S. Department of Education, 1988)

Overwhelming evidence indicates, however, that:

- the misuse of alcohol, not alcohol itself, causes drinking problems (Heien & Pompelli, 1987; Hilton & Clark, 1987; Parker & Harman, 1979; Peele, 1987; Rabow & Watts, 1982)
- it is important to distinguish between drinking and alcohol abuse (Bales, 1946; Colón, Cutter, & Jones, 1981; Parker & Harman, 1979; Peele, 1987; Sadava, 1985)
- the misuse of alcohol can be reduced by educating individuals to make one of two decisions—to abstain, or to drink responsibly (Chafetz, 1974; Wilkinson, 1970)
- because many individuals will choose to drink alcohol, societal norms regarding acceptable and unacceptable behavior for those who drink must be clear and unambiguous (Blacker, 1966; Plaut, 1967; Zimmer & Morgan, 1992; Zinberg & Fraser, 1985)
- people who are going to drink as adults should gradually learn how to drink responsibly (Wilkinson, 1970)

Given the above, the following recommendations should be considered when developing alcohol policies.

1. Current policies concerning the control of consumption should be terminated. Evidence suggests that a negative approach to alcohol problems is based on questionable assumptions (Alanko, 1992; Duffy & Cohen, 1978; Pittman, 1980; Sadava, 1985); that its tactics fail to achieve their objectives (Colón, Cutter, & Jones, 1981; Engs & Hanson, 1989; Federal Trade Commission, 1985; Frankena, Cohen, Daniel, Ehrlich, Greespun, & Kelman, 1985; Graves, 1992; Heien & Pompelli, 1987; Lotterhos et al., 1988; Moskowitz, 1989; Mulford, Ledolter, & Fitzgerald, 1992; Perkins & Berkowitz, 1989; Rabow & Watts, 1982; Smart, 1988; Williams, Kirkman-Liff, & Szivek, 1990); and that its implementation may be counterproductive (Colón, 1981; Colón & Cutter, 1983; Dull & Giacomassi, 1986; Linsky, Colby, & Strauss, 1986; Makowsky & Whitehead, 1991; Parker & Harman, 1979; Smart, 1986).
2. All attempts to stigmatize beverage alcohol as a "dirty drug," as a poison, as inherently harmful, or as a product to be abhorred and shunned should be terminated. Stigmatizing alcohol serves no practical purpose, contributes to undesirable emotionalism and ambivalence, and exacerbates the problems it seeks to solve. Additionally, control proponents may inadvertently trivialize the use of illegal drugs and thereby encourage their use. Those who stigmatize alcohol may also create the false impression, especially among the very young, that parents who use alcohol in moderation are

drug abusers whose good example students should reject. Thus, the misguided effort to equate alcohol with illicit drugs is likely to be counterproductive.

3. Colleges should formulate and implement new policies that incorporate the concept of responsible drinking along with the choice of abstinence.
4. Systematic efforts should be made to clarify and emphasize the distinction between acceptable and unacceptable drinking.
5. Unacceptable drinking behavior should be strongly sanctioned, both legally and socially. It is important that intoxication not be accepted as an excuse for otherwise unacceptable behavior.
6. Educational efforts should encourage the moderate use of alcohol among those who choose to drink. Colleges might, for example, sponsor wine tastings, gourmet dining clubs with wine instruction, and bartending courses with instruction in mixing both alcoholic and nonalcoholic drinks. Such efforts should present moderate drinking and abstinence as equally acceptable or appropriate choices for those of legal age.

Most Americans consume alcohol in moderation and decades of research suggest that moderate consumption is more healthful than either abstinence or heavy drinking (Bofetta & Garfinkel, 1990; Coate, 1993; DeLabry, Glynn, Levenson, Hermos, LoCastro, & Vokonas, 1992; Dolnick, 1990; Ford, 1993; Gordon & Doyle, 1987; Klatsky, Friedman, & Siegelau, 1981; Mendelson & Mello, 1985; Moore & Pearson, 1986; Rimm et al., 1991). The current federal goal of reducing all consumption may, therefore, have negative health consequences for the vast majority of drinkers who consume in moderation.

The search for simple solutions to complex problems has continued throughout history. Nowhere is this more apparent than in the present control of consumption policies on college and university campuses. Like the prohibitionists they resemble from earlier in this century, those who support the control of consumption model (also known as the control, the control of production, the availability, the new temperance, the neoprohibitionist, the neodry, the public health, and the single distribution model) believe they have found the solution to reducing alcohol problems. Unfortunately, the real solution lies not in more questionable control of consumption laws but in the wisdom and courage to move beyond such simplistic answers to address a complex social problem.

References

- Alanko, T. (1992, May/June). *Per capita consumption and rate of heavy use of alcohol: On evidence and inference in the single distribution debate*. Paper presented at the annual meetings of the Kettl Bruun Society for Social and Epidemiological Research on Alcohol, Toronto, Ontario.
- Anderson, D.S., & Gadaletto, A.F. (1991). *Results of the 1991 College Alcohol Survey*. Unpublished report.
- Ashley, M.J., & Rankin, J.G. (1988). A public health approach to the prevention of alcohol-related health problems. *Annual Review of Public Health*, 9, 233-271.
- Bales, R.F. (1946). Cultural differences in rates of alcoholism. *Quarterly Journal of Studies on Alcohol*, 6, 480-499.
- Blacker, E. (1966). Sociocultural factors in alcoholism. *International Psychiatry Clinics*, 3, 51-80.
- Bofetta, P., & Garfinkel, L. (1990). Alcohol drinking and mortality among men enrolled in an American Cancer Society Prospective Study. *Epidemiology*, 1, 342-348.
- Boyer, E.L. (1990). *Campus life: In search of community*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

- Carnegie Foundation for the Advancement of Teaching. (1989). *The condition of the professoriate: Attitudes and trends*, 1989. Princeton, NJ: Author.
- Chafetz, M.E. (1974). Foreward. In H. Fallding (Ed.), *Drinking, community, and civilization* (pp. xiii-xiv). New Brunswick, NJ: Rutgers Center of Alcohol Studies.
- Coate, D. (1993). Moderate drinking and coronary heart disease mortality: Evidence from NHANES I and the NHANES I follow-up. *American Journal of Public Health*, 83, 888-890.
- Colón, I. (1979). *Alcohol control policies and their relation to alcohol consumption and alcoholism*. Unpublished doctoral dissertation, Brandeis University, Waltham, MA.
- Colón, I. (1981). Alcohol availability and cirrhosis mortality rates by gender and race. *American Journal of Public Health*, 71, 1325-1328.
- Colón, I., & Cutter, H.S.G. (1983). The relationship of beer consumption and state alcohol and motor vehicle policies to fatal accidents. *Journal of Safety Research*, 14, 83-89.
- Colón, I., Cutter, H.S.G., & Jones, W.C. (1981). Alcohol control policies, alcohol consumption, and alcoholism. *American Journal of Drug and Alcohol Abuse*, 8, 347-362.
- DeLabry, L.O., Glynn, R.J., Levenson, M.R., Hermos, J.A., LoCastro, J.S., & Vokonas, P.S. (1992). Alcohol consumption and mortality in an American male population. *Journal of Studies on Alcohol*, 53, 25-32.
- Dolnick, E. (1990). Le paradoxe Francaise. *Health*.
- Duffy, J.C., & Cohen, G.R. (1978). Total alcohol consumption and excessive drinking. *British Journal of Addiction*, 73, 259-264.
- Dull, R., & Giacomassi, D. (1986). An assessment of the effects of alcohol ordinances on selected behaviors and conditions. *Journal of Drug Issues*, 16, 511-521.
- Engs, R.C. (1977). Drinking patterns and problems of college students. *Journal of Studies on Alcohol*, 38, 2, 144-2, 156.
- Engs, R.C., & Hanson, D.J. (1989). Reactance theory: A test with collegiate drinking. *Psychological Reports*, 64, 083-1, 086.
- Engs, R.C., Hanson, D.J., Gliksman, L., & Smythe, C. (1990). Influence of religion and culture on drinking behaviors. *British Journal of Addiction*, 85, 475-1, 482.
- Federal Trade Commission. (1985). *Recommendations of the staff of the Federal Trade Commission: Omnibus petition for regulation of unfair and deceptive alcoholic beverage advertising and marketing practices*. Washington, DC: Author.
- Ford, G. (1988). *The benefits of moderate drinking: Alcohol, health, and society*. San Francisco: Wine Appreciation Guild.
- Ford, G. (1993). *The French Paradox and drinking for health*. San Francisco: Wine Appreciation Guild.
- Frankena, M., Cohen, M., Daniel, T., Ehrlich, L., Greespun, N., & Kelman, D. (1985). Alcohol advertising, consumption, and abuse. In *Recommendations of the staff of the Federal Trade Commission: Omnibus petition for regulation of unfair and deceptive alcoholic beverage marketing practices* (Docket No. 209-46). Washington, DC: Federal Trade Commission.
- Gliksman, L., Engs, R.C., & Smythe, C. (1989). *The drinking, drug use, and lifestyle patterns of Ontario's university students*. London, Ontario: Addiction Research Foundation.
- Goldmon, M. (1991). *A meta-analysis of selected adolescent alcohol education studies*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.
- Gordon, T., & Doyle, J. (1987). Drinking and mortality: The Albany study. *American Journal of Epidemiology*, 125, 263-270.
- Graves, K.L. (1992, May/June). Do warning labels on alcoholic beverages make a difference? A comparison of the United States and Ontario, Canada between 1990 and 1991. Paper presented at the annual meetings of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Toronto, Ontario.
- Heien, D., & Pompelli, G. (1987). Stress, ethnic, and distribution factors in a dichotomous response model of alcohol abuse. *Journal of Studies on Alcohol*, 48, 450-455.
- Herd, D. (1992). Ideology, history, and changing models of liver cirrhosis epidemiology. *British Journal of Addiction*.
- Hilton, M.E., & Clark, W.B. (1987). Changes in American drinking patterns and problems, 1967-1984. *Journal of Studies on Alcohol*, 48, 515-522.
- Klatsky, A., Friedman, G., & Siegelau, A. (1981). Alcohol and mortality: A ten-year Kaiser-Permanete Experience. *Annals of Internal Medicine*, 95, 139-145.
- Lauderdale, M.L. (1977). *An analysis of the control theory of alcoholism*. Denver, CO: Education Commission of the States.
- Lemmens, P., Tan, E.S., & Knibble, R. (1988, June). *Comparison of indices of alcohol consumption*. Paper presented at the annual meetings of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Berkeley, CA.

- Linsky, A., Colby, J., & Strauss, M. (1986). Drinking norms and alcohol-related problems in the United States. *Journal of Studies on Alcohol*, 47, 384-393.
- Lotterhos, J.F., Glover, E.D., Holbert, D., & Barnes, R.C. (1988). Intentionality of college students regarding North Carolina's 21-year drinking age law. *International Journal of the Addictions*, 23, 629-647.
- Makowsky, C.R., & Whitehead, P.C. (1991). Advertising and alcohol sales: A legal impact study. *Journal of Studies on Alcohol*, 52, 555-567.
- Mendelson, J., & Mello, N. (1985). *Alcohol use and abuse in America*. Boston: Little, Brown.
- Moore, R., & Pearson, T. (1986). Moderate alcohol consumption and coronary artery disease: A review. *Medicine*, 65, 242-267.
- Moskowitz, J.M. (1989). The primary prevention of alcohol problems: A critical review of the research literature. *Journal of Studies on Alcohol*, 50, 54-88.
- Mulford, H.A., Ledolter, J., & Fitzgerald, J.L. (1992). Alcohol availability and consumption: Iowa sales data revisited. *Journal of Studies on Alcohol*, 53, 487-494.
- Office for Substance Abuse Prevention. (1989). *Drug-free communities: Turning awareness into action* (Department of Health and Human Services Publication No. ADM 89-1562). Rockville, MD: Author.
- Parker, D.A., & Harman, M.S. (1979). A critique of the Distribution of Consumption Model of Prevention. In T.C. Harford & D.A. Parker (Eds.), *Normative approaches to the prevention of alcohol abuse and alcoholism* (pp. 67-68). Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.
- Peele, S. (1987). The limitations of control-of-supply models for explaining and preventing alcoholism and drug addiction. *Journal of Studies on Alcohol*, 48, 61-77.
- Perkins, H., & Berkowitz, A.D. (1989). Stability and contradiction in college students' drinking following a drinking-age law change. *Journal of Alcohol and Drug Education*, 35, 60-77.
- Pittman, D.J. (1980). *Primary prevention of alcohol abuse and alcoholism: An evaluation of the control of consumption policy*. St. Louis, MO: Washington University, Social Science Institute.
- Plaut, T.F.A. (1967). *Alcohol problems: A report to the nation by the Cooperative Commission on the Study of Alcoholism*. New York: Oxford University Press.
- Presley, C., Meilman, P., & Lyerla, R. (1993). *Alcohol and drugs on American college campuses*. Carbondale, IL: Southern Illinois University.
- Rabow, J., & Watts, R.K. (1982). Alcohol availability, alcoholic beverage sales, and alcohol-related problems. *Journal of Studies on Alcohol*, 43, 767-801.
- Rimm, E.R., Giovannucci, E.L., Willett, W.C., Golditz, G.A., Ascherio, A., Rosner, B., & Stampfer, M.J. (1991). Prospective study of alcohol consumption and risk of coronary heart disease in men. *Lancet*, 338, 464-468.
- Sadava, S.W. (1985). Problem behavior theory and consumption and consequences of alcohol use. *Journal of Studies on Alcohol*, 46, 392-397.
- Single, E.W. (1988). The availability theory of alcohol-related problems. In C.D. Chaudron & D.A. Wilkinson (Eds.), *Theories on alcoholism* (pp. 325-351). Toronto, Ontario: Addiction Research Foundation.
- Smart, R.G. (1986). Per capita alcohol consumption, liver cirrhosis rates and drinking and driving. *Journal of Safety Research*, 8, 112-115.
- Smart, R.G. (1988). Does alcohol advertising affect overall consumption? A review of empirical studies. *Journal of Studies on Alcohol*, 49, 314-323.
- Smith, C.J. (1985). The wrath of grapes: The health-related implications of changing American drinking practices. *Area*, 17(2), 97-108.
- Snyder, T.D. (1987). *Digest of education statistics, 1987*. Washington, DC: U.S. Department of Education.
- U.S. Department of Education. (1988). *Drug prevention curricula: A guide to selection and implementation*. Washington, DC: Author.
- Weissman, E.N. (1992). *School-based alcohol abuse prevention programs*. Unpublished doctoral dissertation, State University of New York, Albany.
- Wilkinson, R. (1970). *The prevention of drinking problems*. New York: Oxford University Press.
- Williams, F.G., Kirkman-Liff, B.L., & Szivek, P.H. (1990). College student drinking behaviors before and after changes in state policy. *Journal of Alcohol and Drug Education*, 35, 12-25.
- Zimmer, L., & Morgan, J.P. (1992, May/June). *Prohibition's costs: Always too high?* Paper presented at the annual meetings of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Toronto, Ontario.
- Zinberg, N.E., & Fraser, K.M. (1985). The role of the social setting in the prevention and treatment of alcoholism. In J.H. Mendelson & N.K. Mello (Eds.), *The diagnosis and treatment of alcoholism* (2nd ed., pp. 457-483). New York: McGraw-Hill.